INSTALLATION MANUAL

EVBIKE

Mid-Drive Electric Bicycle Kit

EVBIKE-SET-CMS

Dear Customer,

Congratulations on purchasing your EVBIKE. We believe that you will be fully satisfied with its operation.
The electric bike is one of the most economical means of transport with minimal operating costs. Mounting kit EVBIKE is designed for converting your existing wheel bike to ebike.

EVBIKE kit is compatible with almost every mass produced bike. We always recommended, before installation, to consult compatibility and amount of any adjustments, with your nearest EVBIKE service partner. The current partners list can be found on the website www.evbike.cz, section "Partners".

It may happen that you dislike the product, or you have found in the manual a fact, which prevent you using of kit. In that case please return kit before installing back, in original undamaged packaging.

For actual warranty terms and conditions and the possibility of returning, please contact your reseller who will advise you on how to proceed. In case you do not do so, warranty defects resulting from improper use will not be accepted.

We wish you many happy kilometers!

CAUTION

EVBIKE SET IS SOLD AS THE CONVERSION KIT. SAFETY AND COMPLIANCE WITH LEGISLATIVE REQUIREMENTS OF THE FINAL PRODUCT IS FULLY GUARANTEED BY THE OPERATOR OF A BIKE OR WHOEVER BUILT AND THAN SOLD THE CONVERSED BIKE. WE RECOMMEND THAT YOU ENTRUST CONVERSION OF THE BIKE TO AN AUTHORIZED SERVICE CENTER.

PLEASE READ CAREFULLY THIS INSTALLATION MANUAL BEFORE YOU WILL START EVBIKE CONVERSION.

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SPECIFICATIONS

Motor power:	250W
Motor torque:	steady 50, top 80 Nm
Designed for battery voltage:	24V, 36V
Motor weight:	3,7 kg
Water-Dust protection:	IP65
Operating temperature range:	-25°C ~ 55°C
Maximum speed:	25 km/h (limiter turned ON)
Driving range:	50 - 100 km - depending on pedalling intensity, nature of the terrain and used battery type

PACKAGE CONTENT

Motor unit

Accelerator

Chainet and cranks including small fasteners

Main wiring harness

Brake levers

LCD display

FOR SUCCESFUL ASSEMBLY OF EVBIKE, YOU WILL ALSO NEED FOLLOWING:

— ribbons for cables fastening
— screws, nuts, washers
— special bottom bracket tools (see pictures a, b, c)
— basic technical skills

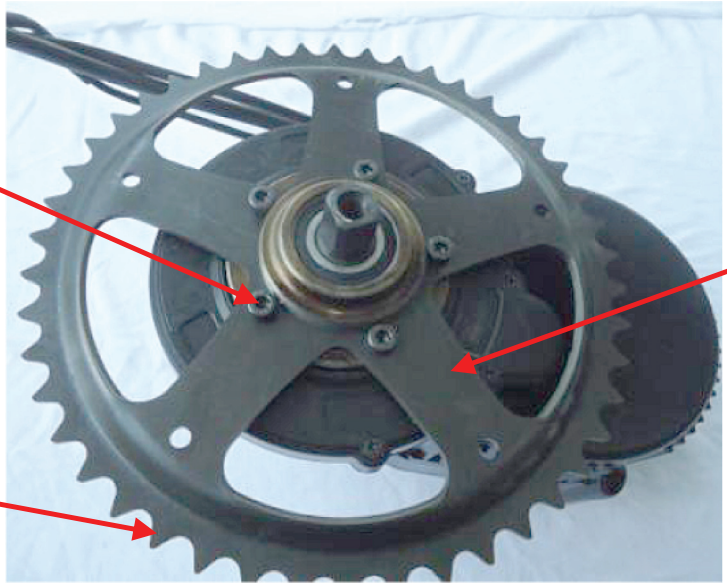
a - Compact Crank Puller

b - Cassette Lockring Remover Tool

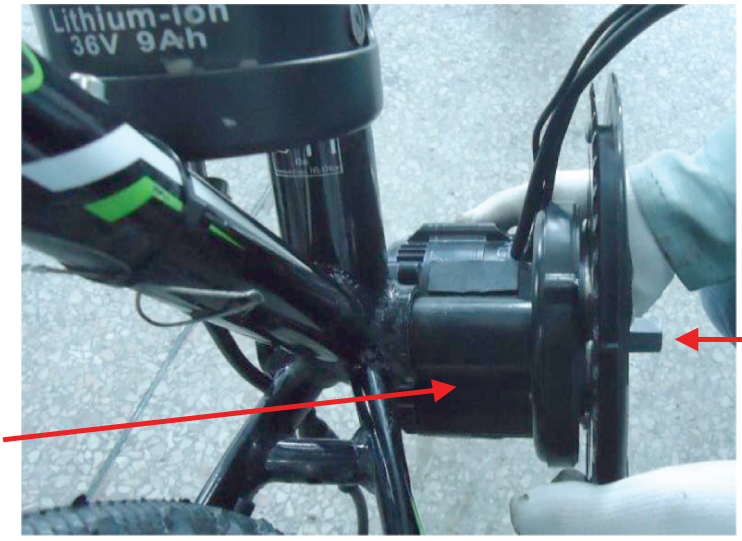
c - bottom bracket tool for easy assembly of bottom bracket lock rings

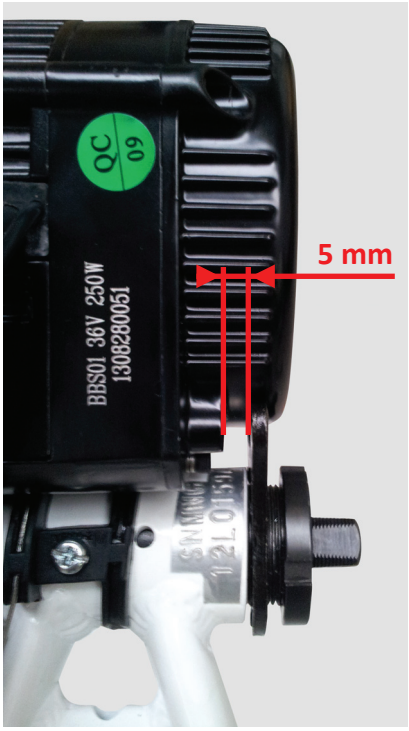
1 CENTRAL DRIVE UNIT INSTALLATION

1) Fasten chain wheel onto the main drive. Chain wheel is fastened on the motor, so that the teeth facing toward the engine (see picture).

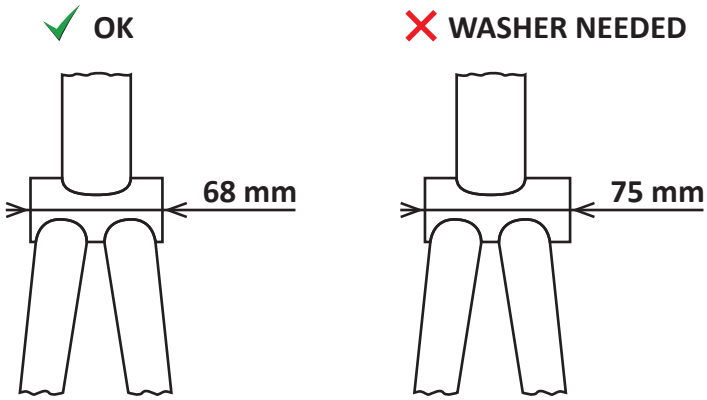


2) Remove the original bottom bracket including cartridge and cups. Use special bottom bracket tools (see pictures 1 a, b). Remove the derailleur, if the bike is fitted with it. The interior thoroughly clean and make sure that nothing prevents insertion of the motor. Cassette of the motor must go slip freely.


Lithium-Ion
36V 9Ah
Insert motor into the hole for bottom bracket cartridge.
Chain wheel will be on the right side (the driving direction)

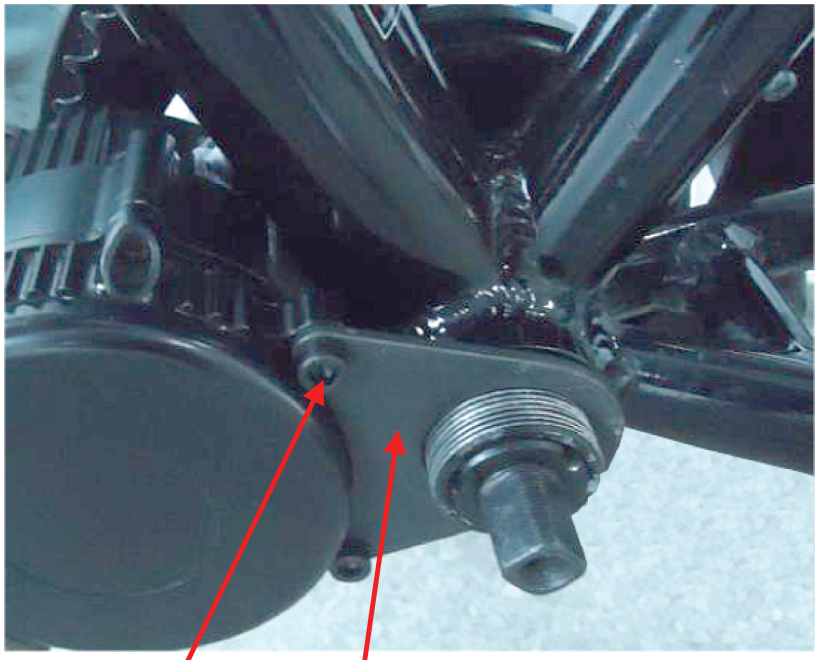


In the case of using a frame for the bottom bracket of width 73 mm, you must fill space between the engine and fixing washer using a ring or nuts (not included in package).



The surface with teeth of fixing plate towards inside, then fix the plate on drive unit with 2pcs M6 Nuts.

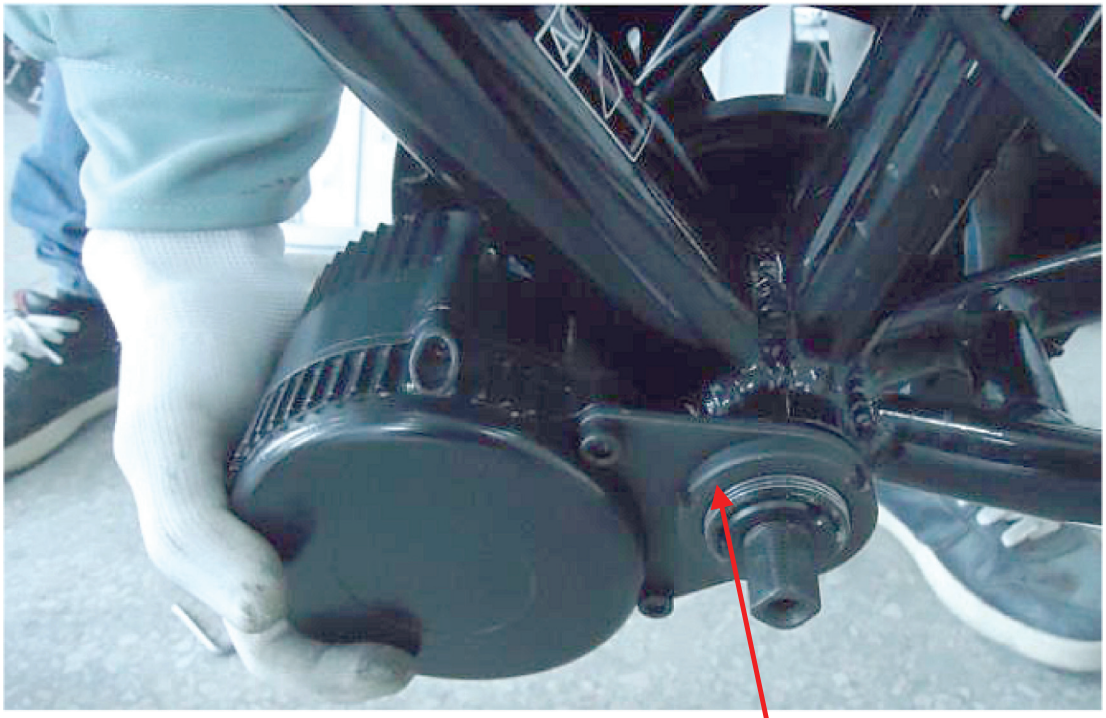
Fixing plate with teeth.

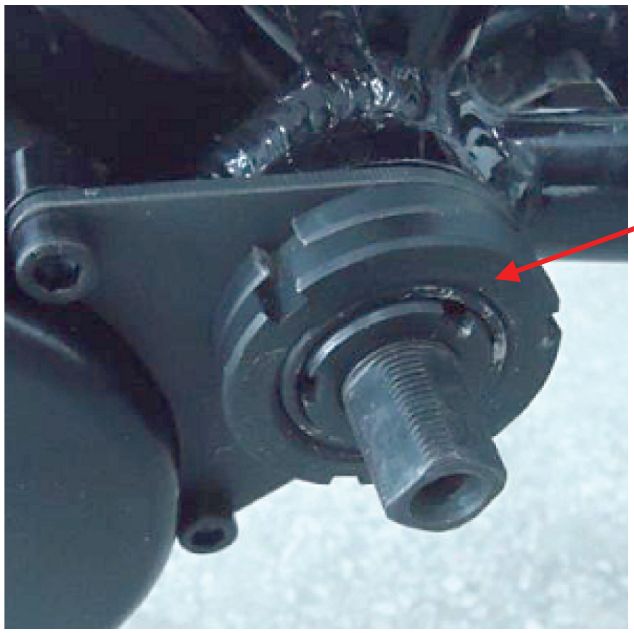


2x M6 Nut.

Teeth of the fixing plate must face towards the bicycle frame!

Now gently pull the motor towards the bicycle frame and tighten the first M33 nut onto axle tube with reasonable force (30-40 Nm). Then tighten the second M33 nut onto axle tube. When tightening, secure first M33 nut against the movement and tighten second M33 Nut with force against first (so called "contra nut") .
For tightening, use bottom bracket tool (see. Figure 1c).

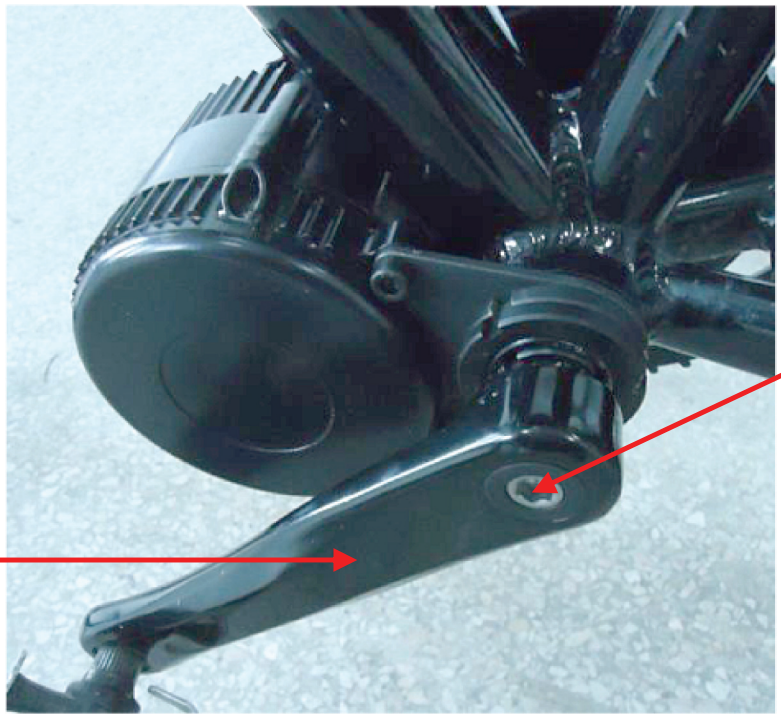


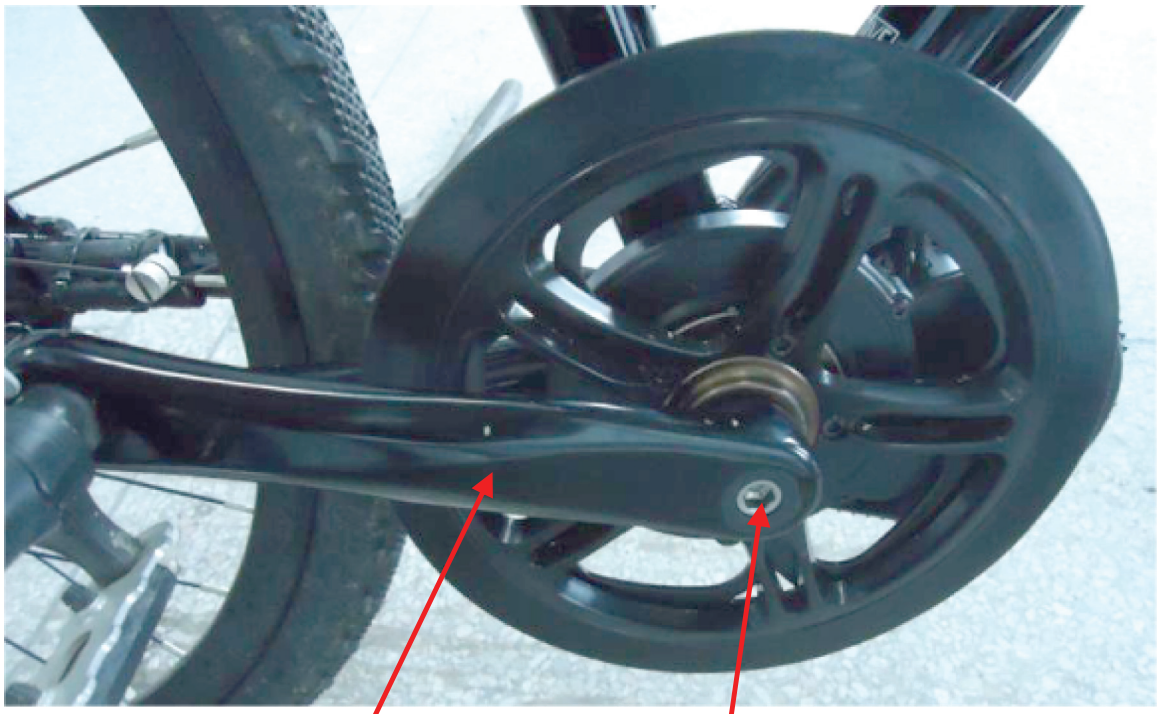


M33 Nut.

In the case of using a frame for the bottom bracket of width 73 mm, it is possible to install only one M33 nut. It is recommended to secure nut with a special glue for screws (not included in package).

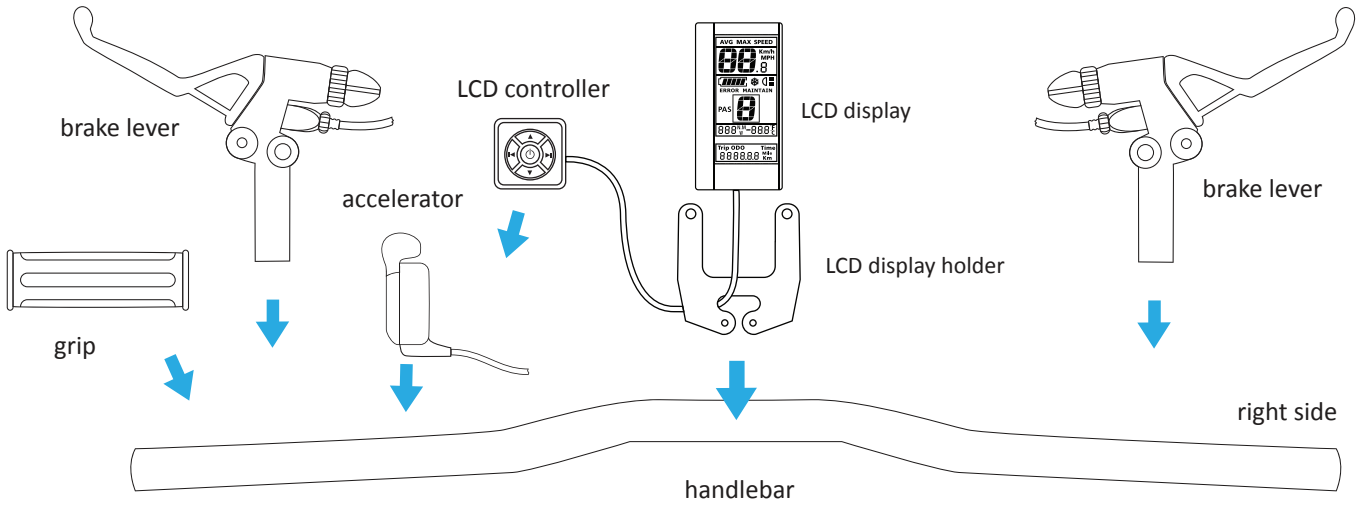
Now place the left and right crank (watch the label L and R) and tighten M8 crews with reasonable force (about 35-40 Nm). After tightening, install pedals (watch out for right and left-hand thread).



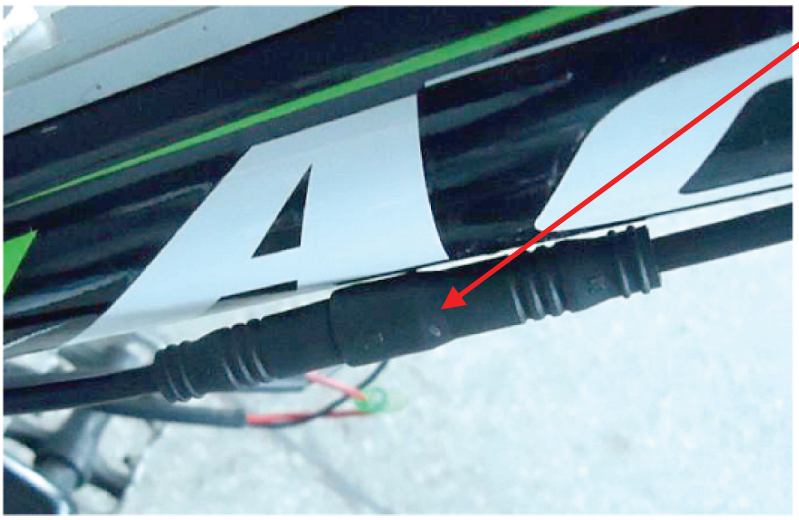


2 INSTALLATION OF CONTROLS AND SPEED SENSOR

First remove the original equipment from left side of the handlebar. Grip, the brake lever and shifter. In reverse order mount LCD display, LCD controller, accelerator, brake lever and grip. LCD controller and accelerator can be optionally installed on the right side of the handlebar.

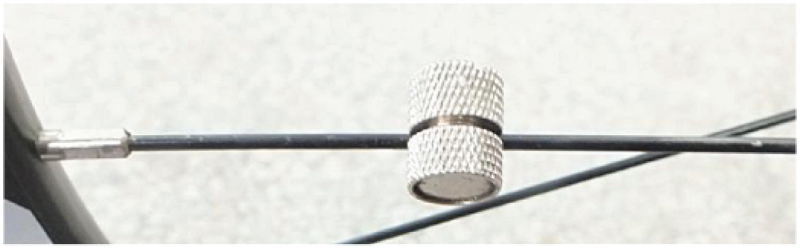


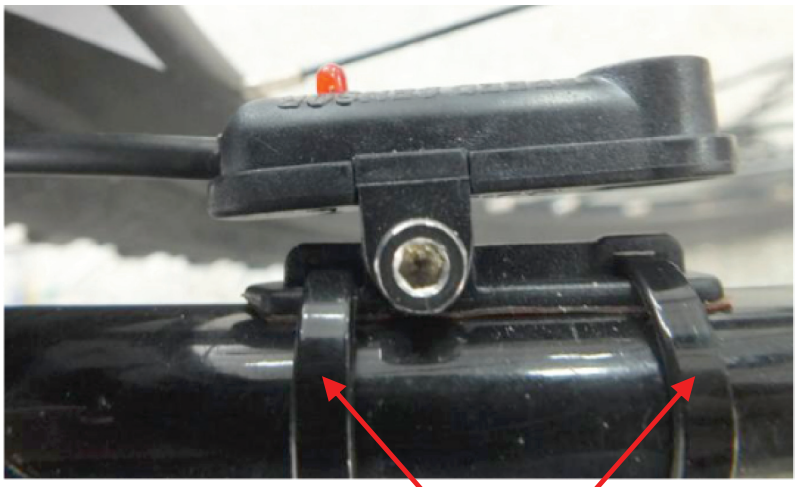
After installing all controls, connect their connectors to the main harness.



Connect controlers to the main harness and then connect the connector from motor unit.

Fasten Speed Sensor to the frame of the rear fork in an appropriate place so that between the sensor and the magnet is not a distance greater than 5 mm. Now install the magnet on the spoke and set it, his magnetic side, to the sensor. Check, that the distance is 5 mm. If the sensor and magnet are installed correctly, when rotating the LED on the sensor is activated and flashes when passing through the magnet.





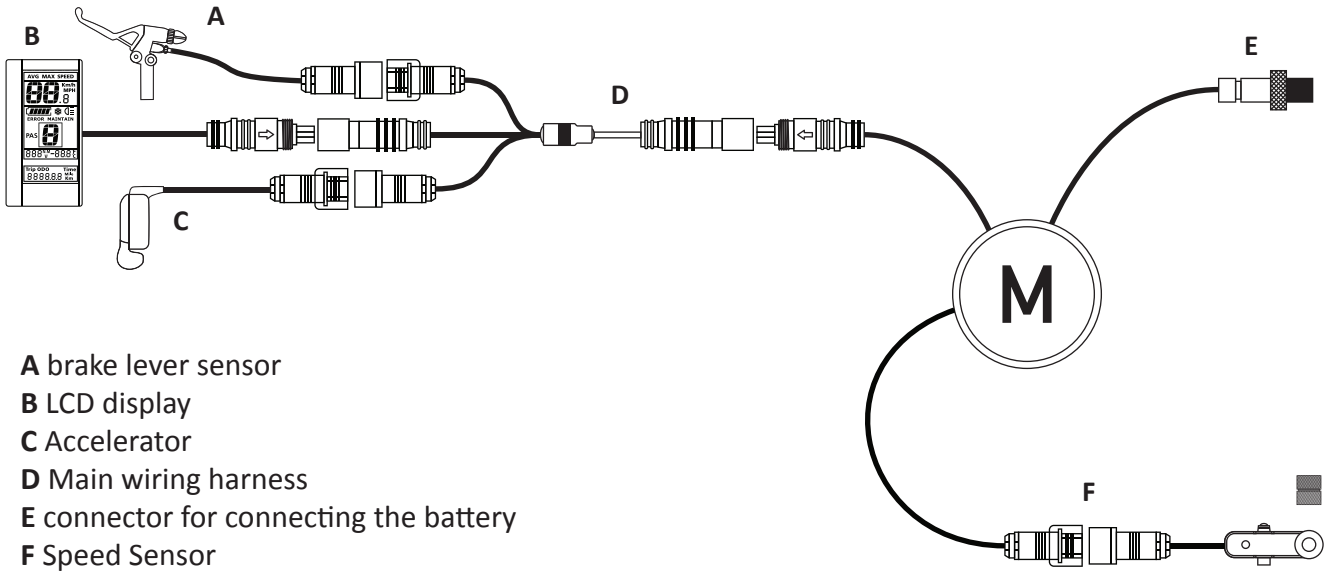
Fasten or underlay and make sure, that distance between the magnet and the sensor is not greater than 5 mm.

⚠ NOTICE

The manufacturer reserves the right to change shape and appearance of the sensor. Its functionality will not be affected. Therefore, the appearance may differ from those illustrated in this manual this is not a defect of the product.

Sensor connector connect with output from the motor unit.

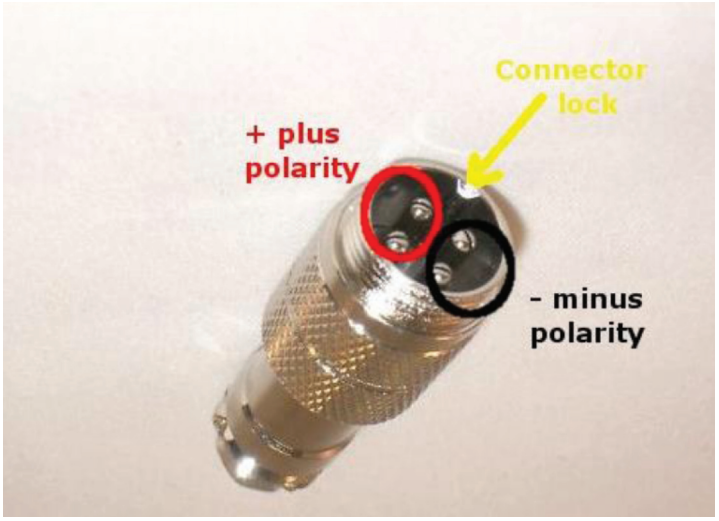
Schematic diagram of the controls and speed sensor:



A brake lever sensor
B LCD display
C Accelerator
D Main wiring harness
E connector for connecting the battery
F Speed Sensor

3 BATTERY INSTALLATION

EVBIKE kit can be powered by your own battery of voltage 24 or 36V. For proper functionality and seamless installation we recommend using certified EVBIKE batteries. When installing your own batteries always make sure the correct polarity of the connected battery and provide battery output with the connector that is compatible with the connector of the motor unit. Such a connector you can purchase as additional accessories. The polarity of the battery connector is shown below.



⚠ NOTICE

Battery is not included.
Compatible voltage is 24/36V.

CAUTION

ENSURE CORRECT POLARITY
In case of polarity reversal, engine control unit will be damaged, as well as other electronic components!

4 LCD CONTROLL

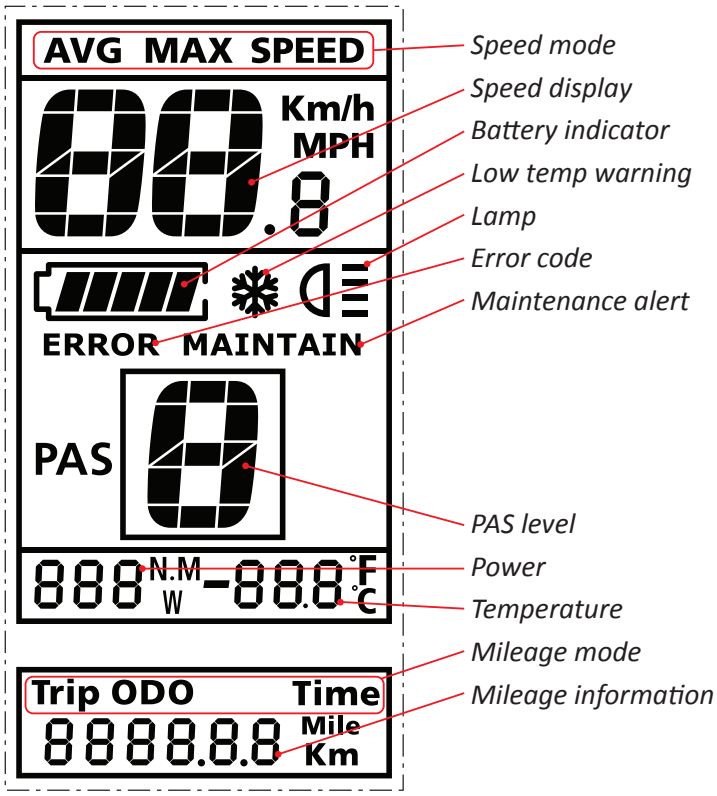
The set is equipped with modern LCD display with automatic backlight and many features. The display is resistant to dust and moisture according IP65 specifications. LCD display is operated by external five buttons controller. In the next section you will learn how to properly set up and operate.

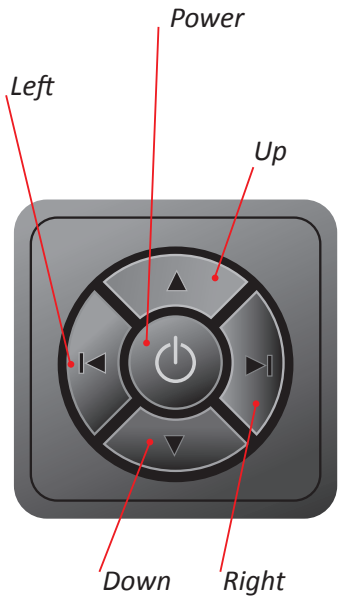
Basic funcions:

1. SPEED: The riding speed (0 – 99 km/h – MPH).
2. TRIP: Trip distance (0 – 99999.9Km/Mile) .
3. ODO: Total distance (0 – 99999.9Km/Mile.
4. AVG: Average speed, 0 – 99.9Km/h (MPH).
5. MAX: Maximum speed , 0 – 99.9Km/h (MPH).
6. Time: The riding time (0 – 99:59:59).
7. Temperature display (°C/F).
8. PAS Level, 0 – 3, 0 for neutral.
9. Assistance for pushing (6 km/h walk mode).
10. Battery indicator; it will not fluctuate with the motor on/off.

Advanced functions:

1. Headlamps & backlight indication, automatic work according to the external light.
2. Show when the temperature is below freezing.
3. Error code indicator.
4. The option to hide the power indicator when using own battery.
5. Measuring current consumption from the battery (Watt).





Basic operation:

1. **Power On/Off:** Press and hold ⏻ button for 2 seconds can turn on/off the Meter.
2. **Speed mode switch:** Short press ◄ button can change the speed mode, Speed->AVG Speed->MAX Speed.

   Note: If there is no operation for 5 seconds, the meter will return Speed (Real-Time) display automatically.
3. **Mileage mode switch:** Short press ► button can change the mileage mode, Trip->ODO->Time.
4. **PAS operating:** Short press ▼ and ▲ button can change the PAS level from 0 to 3, 0 for neutral.
5. **Headlight/backlight On/Off:** Press and hold ▲ button for 2 seconds can turn on/off the headlight/backlight.
6. **6km walk:** Press and hold ▼ button can get into 6km walk mode, out of the mode when release the button.
7. **Data clean:** Press and hold ► button for 2 seconds can cleanup several temporary data, the temporary data include AVG Speed / MAX Speed / Trip / Time.
8. **Parameter settings:** Double press the ⏻ button (press interval less than 0.3 second), the Meter will get into the parameter setting state, current parameter flash. Short press the ◄ ► buttons can switch the setting parameter, press the ▼ ▲ buttons can change the parameter values, press the ⏻ button to save and exit the parameter setting state.

Warning: don't change the following parameters if you are not sure

- The location of speed display symbol **Wd**, this is the wheel diameter, wrong wheel diameter will cause speed abnormal.
- The location of speed display symbol **bU0**, this represent the battery parameter, wrong parameter can cause battery indication abnormal.

a. **Set Kilometer / Mile speed units.**

b. **Set °C / °F temperature units.**

c. **Light sensitive (bL0)**: 0 indicate automatic headlight/backlight OFF, 15 indicate automatic headlight/backlight ON. 1 indicates the brightest on (auto turn on the backlight at bright environment), 5 indicates the darkest on (auto turn on the backlight at dark environment).

d. **Backlight brightness (bL1):** Press ▼ ▲ button display symbol 1–5 to change the brightness of the backlight.

e. **Buzzer(bEP):** 0 indicates buzzer off, 1 indicates buzzer on.

f. **Auto off delay time (OFf)**: Press the ▼ ▲ button display symbol 1 – 9, represent automatically shutdown delay time (minutes), default value is 5.

g. **Power display (Pod):** 0/1, represent whether to show the power indicate on LCD.

h. **Maintain reminder (nnA)**: 0 represent maintain reminding off, 1 represent maintain reminding on. We recommend leaving the value 0.

i. **Wheel diameter (Wd)**: You can change this parameters as follows, **16/18/20/22/24/26/700C/28/29**. This is represent the wheel diameter, in units of inches. Wrong value will cause incorrect speed measuring!

j. **Battery parameter (bU0):** Press the ▼ ▲ button can change this parameters as follows, 24/36/UbE. This is represent the Battery rated voltage, UbE means user define voltage. Selecting UbE value affects disconnecting the battery when the voltage drops. Value UbE disables this protection. Incorrect setting can damage the battery!

k. **Setting the speed limit:** This setting is for security reasons under the code password. On the screen labeled (**PSd**) input the key code "**1919**". When you enter is automatically displayed menu labeled (**SPL**). On this screen set value in the range of 10 - 99 km/h. For legal operation on roads, the bike motor is disconected after reaching a speed of 25 km/h. So please never set higher value if the bike has to be operated in accordance with the legislation. Owner of the bike is responsible for proper operation. On the contrary, for safety reasons, it is possible, for example, set children limit reduced to 10 km/h.

5 ERROR DIAGNOSTICS - TROUBLE SHOOTING

Error Code	Error description	Handle
1	Communication Error	Check cable connection
2	Controller protection	Check three-phase power line. If the problem persists, consult your dealer, it is a defect in the motor.
3	Three-phase power error	Check three-phase power line connection. If the problem persists, consult your dealer, it is a defect in the motor.
4	Battery low	Charge the battery. If the problem persists you must check the battery.
5	Brake error	Release the brake lever or perform check of the switch functionality.
6	Turn error	Then turn on and off the system again.
7	Speed Hall error	Speed Hall error. If the problem persists, consult your dealer, it is a defect in the motor.
other	Reserved	

6 USAGE

The product can be used in the rain, but should not be exposed to continuous contact with water. If you are driving in the rain never disconnect connectors and do not use LCD controller. Don't leave the main unit exposed to direct sunlight when not riding the bike. Store the product in a dry place with a temperature of 15-25 °C.
Keep product clean. Don't use thinner, alcohol or benzene. Wash with clean water using a damp cloth.
Do not concentrate on meter while riding. Safety first!

CAUTION

NEVER MANIPULATE THE CHAIN AND CHAINSET IF BATTERY IS CONNECTED. RISK OF SERIOUSLY INJURY! BEFORE HANDLING TURN OFF LCD DISPLAY, DISCONNECT BATTERY AND REMOVE IT OUT OF THE HOLDER.

7 MAINTENANCE

It might seem that the EVBIKE set is almost maintenance free. Main care will definetely require your battery. Please check separate battery user manual for more infromation. In this manual you can find only basic guidelines how to use lithium batteries. If you follow this guidelines, you will ensure longer life of your battery.
The following principles apply to most types of lithium batteries.

Proper charging
Lithium cells which contain EVBIKE batteries can be recharged at any level of charge or discharge - these batteries have no memory effect. We recommend always after the ride, to recharge the battery so you can immediately enjoy full power and a long driving range. After recharge always unplug the battery from the charger.

Proper discharging
Recharge the battery to full capacity after the the first disconnection of protective controller. Never try to reuse the battery after protective disconnection! Deep discharge of some cells and their unrepairable damage may happen! Such battery usage may also cause unbalance of battery cells voltage and decrease their capacity.
In extreme cases, the battery can not be recharged again. This kind of damage can be easily diagnosed and will result in avoiding your warranty.

Storage
If you do not use the bike for more than 1 hour, always disconnect the battery using its power switch. If you do not use the bike for more than 24 hours, always remove the battery, recharge it and store in a safe dry place at room temperature. Beware of short-circuit the battery terminals (contacts) when storing and handling. For long-term storage, such as off-season, it is also necessary check battery every 14 days (using LEDs) and after 1 month recharge the battery to its full capacity. If you do not perform this maintenance deep discharge of the battery cells will occur. This irreparable battery damage is not covered by warranty.

BEFORE THE FIRST RIDE CHECK THE TIGHTNESS OF ALL BOLTS AND FUNCTIONALITY OF ALL SYSTEMS INCLUDING WHEEL BRAKES.

Global World Logistic Ltd.,EU-VAT ID: CZ682998344, as legal entity authorized by manufacturer for EU, hereby declares, that the device is in compliance with basic requirements and further relevant provisions of directive LOW VOLTAGE DIRECTIVE 2006/95/EC which sets technical requirements for electric devices of low voltage.
This declaration is issued on documents provided by Manufacturer.

CE